arithmetical mean of the maximum observed magnitudes of the 27 novae is $5\frac{1}{2}$. Some of the observed maximum magnitudes were visual and some were photographic, but the spectra of novae are rich in blue and violet light, and their color equation is therefore small. In several novae the maximum brightness occurred before their discovery, and we shall not be far wrong to assume that the average (arithmetical) maximum brightness of our galactic novae is 5. Presumably the novae already discovered in spiral nebulae are the brighter ones of their class; and there seems to be safety in setting 15 as the average maximum. There is thus an average difference of 10 magnitudes between galactic novae and spiral novae. Now all the evidence available assigns a great distance to the galactic novae. If we assume equality of absolute magnitude for galactic and spiral novae, then the latter, being apparently 10 magnitudes the fainter, are of the order of 100 times as far away as the former. That is, the spirals containing the novae are far outside our stellar system; and these particular spirals are undoubtedly, judging from their comparatively great angular diameters, the nearer spirals. Of course the effect of any existing absorbing materials in the spirals upon the novae is to reduce their apparent brightness and thus to make them seem farther from our system than they really are.

HEBER D. CURTIS.

NOTE ON THE BINARY STAR OΣ 341.

Notes* by Professor Husary in earlier volumes of these *Publications* called attention to the remarkable change observed in the double star OΣ 341 in the years 1898 and 1900. In the former year the distance between the two components, long regarded as relatively fixed at about 0″.4, had become so small that the star appeared to be single with the highest powers of the 36-inch refractor. During the two following years the components were once more separately visible at distances of 0″.17 and 0″.26 respectively, and in 1915 my measures showed that they had again reached an angular separation of 0″.4.

More recently I have secured the following measures:

1910.268	93°.2	0″.48	1ⁿ
1914.586	96 .2	0 .34	2
1916.605	96 .9	0 .24	3
1917.584	86 .5	0 .15	1

*Pub. A. S. P. **10**, 121, 1898; **12**, 38, 1900.

It is apparent that the angular distance, after reaching a maximum at some time between 1905 and 1914, is now again approaching a minimum. This is much earlier than had been anticipated and makes it necessary to revise entirely our views as to the character of the orbit of the system. The two components differ in brightness by more than half a magnitude and there is little question but that the companion, whenever it has been visible, has been the following star of the two. Moreover, the measures do not show much change in the position angle.

It thus appears probable that the system completes an entire revolution in a period of approximately 20 years, the orbit being very eccentric and having a high inclination. The earlier measures favor this hypothesis, for they indicate maximum elongation at four epochs—sometime between 1845 and 1852, between 1883 and 1888, between 1905 and 1914 and about 1868—and they do not exclude the possibility of minimum separation (apparent occultation) about 1877 and 1857, tho definite evidence is lacking.

The motion of the system during the next two or three years will put this hypothesis to the test. The measures from 1898 to 1900, referred to above, define the time of the companion's reappearance with accuracy. If the same phenomenon is again observed, and the companion, when it reappears is again on the following side, the period of revolution will be known with precision, and a good determination of the orbit will be possible.

September, 1917. ROBERT G. AITKEN.

SPECTRUM OF WOLF'S COMET

Since Wolf's Comet—*b* 1916—did not turn out to be as bright an object as was expected, it seemed that it would be of interest to have its spectrum. An exposure for the spectrum of the comet was made here on the nights of August 25 and 26, 1917. It recorded chiefly a continuous spectrum. Even the strongest cometary emissions are faint; the cyanogen band at 3883 is weak, and the hydrocarbon band 4737 presents only a trace. The spectrum is too narrow and faint to decide definitely the presence of solar lines, but it indicates that the comet was shining by reflected sunlight.

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